

Tessellations

Definition

A tessellation is a collection of plane figures that fills the plane with no overlaps and no gaps. Tessellations are seen throughout art history, from ancient architecture to modern art.

In Latin, *tessella* is a small cubical piece of clay, stone or glass used to make mosaics.^[1] The word "tessella" means "small square" (from "tessera", square, which in its turn is from the Greek word for "four").

Historical Connection of Muslims and Tessellations

Moorish architecture in Spain and Islamic architecture in the Middle East offer excellent examples of tessellations or tilings.

Because of the strict injunctions against such depictions of humans or animals which might result in idol-worship, Islamic art developed a unique character, utilizing a number of primary forms: geometric, arabesque, floral, and calligraphic, which are often interwoven. From early times, Muslim art has reflected this balanced, harmonious world-view.

-Elisabeth Siddiqui, *Islamic Art*

Tessellation of Pavement



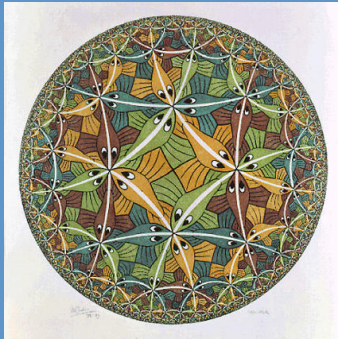
Natural Tessellation



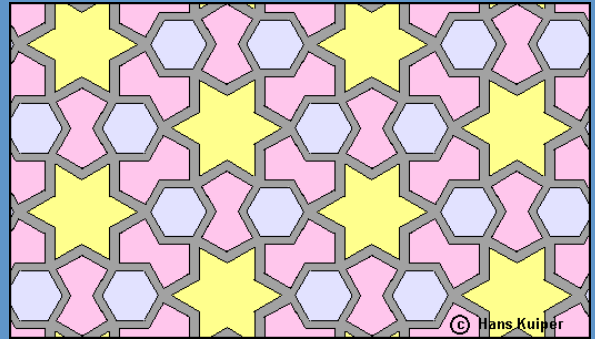
Mosaic Floor Tessellation



M.C. Escher Tesselation



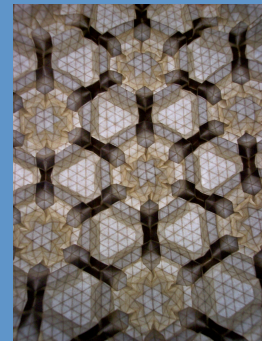
Pink Power Tessellation



Moorish Tile Patterns



3-D Moorish Pattern



Origami Tessellations and Islamic Design



Tessellation Directions

Because Islamic people do not use humans or animals in their art, they developed geometric designs using only compasses and straight edges. These designs, which use repeated shapes that **completely cover a surface with no gaps or overlaps**, are called tessellations. Use the grid below to create your own tessellation, then color in a way that emphasizes the pattern.